

Description of A NEW SPECIES OF APUS, by JOHN LE CONTE, F.  
L. S., &c. Read December 8th, 1845.

Among the many valuable objects of Natural History which my son procured during his late journey to the Rocky Mountains, one of the most interesting is the small crustaceous animal, which is the subject of the present communication.

The genus Apus, originally considered by Linné, along with the Limulus or Horse-shoe Crab of our own sea coast, as species of Monoculus, received its present name from the illustrious John Anthony Scopoli. To both the genera Monoculus and Limulus, it bears a striking external resemblance, particularly to the latter: indeed, if we consider its facies alone (setting aside the naked tail,) we should be very apt to conclude that it was a close congener of them. But when properly studied, there will be found a vast interval between these animals, both as regards the structure of the body, and the detail of the oral and masticatory organs. This interval is undoubtedly filled up by numerous beings, either not known or not yet sufficiently examined; "Natura enim non facit saltus:" Savigny has observed that there is as much difference between them as between a crab and a spider (phalangium.)

But three species of Apus are known to Naturalists; the *A. cancriformis* the *A. productus* of Leach, by him called *Lepidurus*, and the *A. Montagu*, of the same author. The first and last of these are readily distinguished from our species by the shortness of the caudal extremity, and the other by having an oval horizontal lamina extending from the emargination of the last joint of the tail.\*

It may not be amiss to observe here, that the animal described by Mr. Say, in the Journal of the Academy of Natural Sciences of Philadelphia, vol. 1, page 437, and considered by Dr. Dekay, in the fifth volume of the Natural History of this State, as an Apus, cannot belong to the same genus as this which we are now considering, as it was found parasitic on a crab, and has but two eyes; from the very imperfect description, it is impossible to say what it is. It seems to have some relation to Caligus, but as I ob-

\* In the first volume of Major Long's Expedition to the Rocky Mountains, mention is made of a species of Apus, three-tenths of an inch in length, but no detailed description is given: it may belong to some other genus of Crustacea.

served before, it is impossible to determine where it should be arranged.

\* APUS LONGICAUDATUS.

Pale brown: *buckler* large, thin, gibbous, nearly round, carinate on the middle of the back, deeply emarginate behind, the edges of the emargination fringed with short spines: *eyes* three, simple, the two anterior larger, approximate, somewhat lunate, the third one round, placed in the middle behind the two others: *antennæ* very short, inserted near the mandibles, two-jointed, joints cylindrical, subequal, the second joints somewhat acuminate and naked at the tip: first pair of *feet*, or as they have been called, exterior antennæ, furnished with four articulated filaments; of these filaments, the outer one is longer than the body, the next half the length of the first, the third about one third the length of the second, and the fourth very short: the other feet, amounting to ten pair, are flattened, trifid at the tip, the intermediate division being the longest, furnished on the inner side with a short branch, and externally with a broad lamina; below these feet are twelve pair of laminae, the five anterior pair larger, the seven smaller pair reaching to the vent, which is covered by the last pair; these laminae are complicated in their structure, and ciliate with short hairs: *tail* long, consisting of sixteen joints counting downwards from the vent, the last one the longest, somewhat coriaceous, emarginate and ending in two long articulated naked filaments, the joints of the tail and of the filaments are furnished each with a row of small spines, which run entirely round.

Length to the end of the tail, 1.5 of an inch, of the buckler, .65, breadth of the same, 7.

Plate III., fig. 1. (a.) one of the feet. (b.) one of the laminae.

Of the habits of this animal, we know but little; it was found in immense numbers in a small shallow lake on the high plateau between Lodge-pole creek and Crow creek, north-east of Long's peak: they were swimming about with great activity, plunging to the bottom and rising to the surface. All of them that were caught appear to be males, at least none of them have any ova attached: the common species in Europe, *A. cancriformis*, on the contrary, has never been found but of the opposite sex.